My Music and Helmut Lachenmann’s Concept of Sound

D.M.A. DOCUMENT

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Abstract

The first part of this document is a study of German composer Helmut Lachenmann’s concept of sound. The paper illustrates three periods of Lachenmann’s music according to the changes he made to his musical style. During the second period, he uses the concept of musique concrète instrumentale to explore extended performance techniques and energy of sound to create a vast palette of new sounds. Also, his essay “Klangtypen der Neuen Musik” explains five sound-types based on different musical sonorities. These musical aesthetics form the basis of his composition and inspire a younger generation of composers towards sound-world composition. The second part of this document presents three of my chamber works: Gone from My Sight (2014) for solo piano, Tamer (2014) for b-flat clarinet, violin and piano, and Footfalls in Memories (2015) for piano quintet. The discussion of these three pieces includes the use of extended performance techniques, musical structure, and the influence of Lachenmann’s concept of sounds.
Dedication

This document is dedicated to my family.
Acknowledgments

I would like to express my gratitude to my advisor, Professor Jan Radzynski, for his assistance and guidance regarding this document and my graduate studies. I would not have been able to complete this degree without his support and encouragement.

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Chapter 1: Introduction

Musical ‘defamiliarization’\(^1\) is the use of common musical elements (such as traditional instruments or pre-existing melodies) in unusual ways, to create sounds that are strange and new. This concept appears in numerous musical pieces created in the 21\(^{st}\) century. Also, It has become an important topic for composers striving to position themselves in a variety of musical styles without losing their own voices. Even though composers might explore multiple styles in their music, sound remains the raw material of musical creation. Regardless of the changes in compositional thought, the works still retain composers’ inherent idiosyncrasy. Consequently, the core idea of creation helps composers to recognize their own styles.

Within this document, I will discuss the works I composed between 2014 and 2015. The musical ideas and the aesthetics of these pieces reflect my current thoughts on musical composition. In many of my works, I experimented, explored, and developed the concepts of sound. As a result, sound gradually became the most important foundation of the musical composition.

With regard to sound, I was deeply influenced by Helmut Lachenmann’s aesthetics of sound. I applied his concept of ‘musique concrète instrumentale’ and

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\(^1\) Defamiliarization is an art technique that presents familiar items in unusual configurations to enhance the audience’s perceptions of such familiar items. The term was first coined in 1917 by Russian writer Viktor Shklovsky in his article “Art as Technique.” Viktor Shklovsky, “Art as Technique,” in The Critical Tradition: Classic Texts and Contemporary Trends, 3\(^{rd}\) edition, ed. David H. Richter (Bedford/St. Martin's, 2006), 774-784.
‘Strukturklang’ (‘structure sound’) in my pieces. The compositional concept of *musique concrète instrumentale* refers to using instruments to imitate electronic sounds, including extended techniques and noise sounds. Moreover, in Lachenmann’s essay “Klangtypen der Neuen Musik (Sound-Types of New Music, 1966),” Lachenmann generalized five sound-types within different musical processes by their distinct timbres and acoustics. Furthermore, he mentioned the concept of ‘Strukturklang’ (‘structure sound’), which means that an individual sound can develop or become the basis of a musical structure.² Lachenmann’s music highlights the perception of musical process, a notion very much related to my own musical thinking.

This document will focus on Lachenmann’s concept of sound. Also, I intend to explain how I apply the notion of sound in my own musical compositions.

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Chapter 2: Helmut Lachenmann’s Music

German composer, Helmut Lachenmann, was born in 1935. He received musical training at the Musikhochschule Stuttgart, where he studied conventional music theory, including counterpoint and composition, with Johann Nepomuk David from 1955 to 1958. The Darmstadt summer course in 1957 was the turning point in his compositional career. He was inspired by the summer course, to a point where he developed new ideas about music. He also met Luigi Nono and studied composition with him in Venice between 1958 and 1960. At the beginning of the 1960s, he attended seminars led by some of the most influential composers of the time, such as Karlheinz Stockhausen.

Lachenmann tried to create his own compositional voice based on what he was learning at these seminars. During the mid-1960s, he worked briefly at the University of Ghent’s electronic music studio. This experience became the foundation of his sound-world composition. However, he changed direction quickly as he was dissatisfied by the creation of sounds through tape techniques. He attempted to create a variety of electronic-like sounds by only using instruments. From 1968, Lachenmann began to develop his own aesthetics of music and developed the concept: musique concrète instrumentale; he also wrote an essay titled “Klangtypen der Neuen Musik.” Lachenmann taught composition at the Musikhochschule Stuttgart from 1966-70, the Pädagogische Hochschule from 1970-76, and the Musikhochschule Hannover from 1976-81. In 1978, he began to deliver regular lectures at Darmstadt. In 2008, he was a Visiting Professor at
Harvard University. His distinct voice led to him to become a leading composer of the late 20th century.

**Serialism**

Lachenmann’s music can be divided into three distinct periods. During the first period, he was influenced by his teacher, the Italian composer, Luigi Nono, with whom he studied composition with between 1958 and 1960 in Venice. During this period, he used various serial techniques, such as tone-row permutations. However, not only did he develop tone-row skills, but he also explored timbre, texture, and articulation techniques. In this respect, he was inspired by Anton Webern. In Lachenmann’s article “*Hat das Werk Anton Weberns 1970 eine aktuelle Bedeutung?*” (*Do Anton Webern’s works have a current significance in 1970?*), he stated:

“In his works (for example, the pieces for cello, the pieces for violin, the bagatelles for string quartet or in the symphony), opportunities of an immediate sound experience are exposed, made "tangible", which are not brought to the means of sound production from outside, as usual, but which have always been part of this material: Think of the phenomena of timbre, silence, of the temporal experience in his works. [...] Such a way of mediated observation of material seems rather revolutionary to me,...”

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The original context:

“In seinen Werken (etwa den *Cellosäcken*, den *Geigenstücken*, den *Bagatellen für Streichquartett* oder in der *Symphonie*) sind Möglichkeiten einer unmittelbaren Klang-Erfahrung freigelegt, „faßlich“ gemacht, die nicht, wie üblich, an die Klangmittel von außen herangeführt sind, sondern schon immer Teile dieses Materials waren: Man denke an die Phänomene Klangfarbe, Stille, an das Zeit-Erlebnis bei seinen Werken. [...] Solche Art der vermittelten Materialbeobachtung...scheint mir aber revolutionär,...”
Therefore, during this period, Lachenmann not only used serial materials, but also stressed the integration of timbre and structure, such as dense or sparse texture, or loud or soft dynamics. His timbral texture and pointillistic String Trio (1965) exemplifies the influence of Webern’s music, as it delicately addresses musical materials and structure. On the other hand, he also applied a number of extended performance techniques to expand the palette of instrumental colors.

**Musique Concrète Instrumentale**

At the end of the 1960s, Lachenmann gradually established a musical concept that was different from his previously dodecaphonic style. This period starts from his trio piece, *temA* (1968) for flute, voice, and cello, *Notturno* (1966-1968) for small ensemble and cello and *Air* (1968-1969) for large orchestra and percussion; this period also includes his theatre work, *Das Mädchen mit den Schwefelhölzern* (1990-1996 rev. 1999). These pieces feature new sounds achieved through unusual performing techniques that imitate the effect of electronic sounds. He called this compositional concept: *musique concrète instrumentale*. In addition, in his essay “*Klangtypen der Neuen Musik, 1966,*” he systematically classified acoustic experiences by different types. These sound-types also formed the basis of his music.
Musique concrète instrumentale refers to Pierre Schaeffer’s ‘musique concrète.’

The concept of Schaeffer’s musique concrète involves recording everyday sounds and incorporating these sounds into the music. Using tape techniques, such as looping, reverse, and speed change, these recording sounds will be re-integrated and then presented abstractly. Even though Lachenmann’s musique concrète instrumentale was inspired by Schaeffer’s musique concrète, Lachenmann avoided directly using pre-existing sounds. His intention was to apply acoustic instruments to produce new mechanical sounds that were similar to Schaeffer’s real-world sounds.

Moreover, Lachenmann emphasized the energetic process of sound. He said in an interview:

“If I hear two carts crashing – each against the other – I hear maybe some rhythms or some frequencies, but I do not say ‘Oh, what interesting sound!’ I say, ‘What happened?’ The aspect of observing an acoustic event from the perspective of ‘What happened?,’ this is what I call ‘musique concrète instrumentale.’”

Lachenmann used a considerable number of extended performance techniques in his music during this period. These extended performance techniques not only produce diverse orchestral colors, but also add a variety of energetic process of sound. Listeners can obviously conceive the energetic process particularly in a live performance. The examples below illustrate how Lachenmann created ingenious sounds.

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4 Pierre Schaeffer (1910-1995) was a French composer, acoustician, and electronics engineer, noted as the founder of musique concrète. Schaeffer began working at Radiodiffusion Télévision Française in Paris in 1936. At that time, he started to experiment with recorded sounds using different tape techniques, including playing sounds backwards, changing the speed and amplitude of sounds, and juxtaposing the fragments of distorted sounds. Étude aux chemins de fer (1948) was the first piece Schaeffer created based on the idea of musique concrète. The sound material in Étude aux chemins de fer was derived from the recordings of trains.

Lachenmann first developed the concept of *musique concrète instrumentale* in his trio piece, *temA* (1968). The title *temA* connects the German word “atem” with the meaning of breath. In this piece, Lachenmann used a variety of performance techniques to create different breathy sounds. Example 1 shows the combination of sounds in his works. The flutist blows air into the tube with an arched mouth opening, the singer inhales with the vowel, and the cellist draws the bow on the bridge. These physical processes created a strong air-noise sound.

Ex. 1 Lachenmann, *temA*, m. 8

Example 2 and 3 show the connection and imitation of sound. Example 2 entails the flutist playing a short and strong noise sound while the singer inhales with the vowel to extend the flute’s noise sound. As can be seen in example 3, the sound of the flute’s flutter tone suspends the sound of the singer’s lip vibration. Lachenmann created different colors by using all kinds of physical processes.

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Vocal effects play an important role in Lachenmann’s music. In this piece, he combined human sounds, such as a sigh, a groan, and dialogue with the sounds of the flute and a cello. Example 4 demonstrates that a human groan imitates a cello’s scratch sound. It is a clever way of creating new orchestral colors.

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8 Ibid.
In his three solo pieces, *Guero* (1969) for solo piano, *Pression* (1969) for solo cello, and *Dal Niente* (1970) for solo clarinet, Lachenmann adopted Viktor Shklovsky’s process of defamiliarization, which uses unfamiliar ways to display familiar things. In this way, the music can attract the audience’s attention and enhance their perception of the music. This will also result in the audience becoming more involved and listening actively during the musical process rather than appreciating it passively. Moreover, the notations of *Guero* and *Pression* resemble graphic notation. However, it is not aleatory process. It accurately notes each musical process and aural result. Example 5 shows the beginning part of *Guero*. As can be seen in example 5, the untraditional notation notes all sorts of *glissando* motions. The mechanical sounds are created through gliding one’s fingernails along the different areas of the piano keys. The square box denotes that performer gliding over the front surface of the white keys with their thumbnail or index.

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9 Jeffrey Lipscomb, Symphony #2 and A Critical Appraisal of Helmut Lachenmann’s Writings and Music (Ph.D. diss. Louisiana State University, 2010), 163-164.
finger. The use of the thumbnail or index finger depends on the directions of the *glissando* motions.

Ex. 5 Lachenmann, *Guero*, the first system.\(^{11}\)

Example 6 shows another part of *Guero*. The notation indicates a variety of pizzicato motions in different positions of the piano and precise rhythms. The diamond-shaped note means that the performer flicks the front and lateral edge of the key. The word description at the top system indicates that the performer freely chooses the keys with which to perform the flick motion.

Ex. 6 Lachenmann, *Guero*, the part of pizzicato motion.\(^{12}\)


\(^{12}\) Ibid.
Lachenmann’s solo cello piece, *Pression* (1969), emphasizes a number of physical actions in order to highlight brand-new cello acoustics. As can be shown in example 7, Lachenmann invented the cello bridge clef to designate performance areas. There are three main sections: the first is behind the bridge, the second is the bridge itself, and the third is the fingerboard and general area above the bridge. This graphic clef offers performers the accurate location to perform the indicated actions.¹³

![Ex. 7 Lachenmann, Pression, cello bridge clef](image)

Example 8 shows that Lachenmann used graphic notation and a number of word descriptions to help performers understand his idea about the creation of sounds. Example 8 is the beginning of the piece, he used scordatura without a division line. Therefore, the note represents an action rather than an exact pitch. The word description

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of the bottom system guides the two actions. One action is played by the right hand bowing when the note-stem points up. Another action is played by the left hand only when the note-stem points down. The music starts with drawing the bow on the bridge then rubbing the strings with left hand on the fingerboard area. A creepy sound is created when rubbing the strings with the fingers.

Ex. 8 Lachenmann, *Pression*, the beginning part of *Pression*.\(^\text{15}\)

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*Klangtypen der Neuen Musik (Sound-Types of New Music, 1966)*

The essay “*Klangtypen der Neuen Musik*” reflects on Lachenmann’s compositional and aesthetic approach to music. He stated that timbre is the essence of a musical structure, which includes the creation of the timbral process. According to this

process, he divided sounds into different categories. In the early 1960s, several composers such as Nono, Ligeti, and Stockhausen, applied the concepts of timbral texture to their music. Lachenmann drew on their works to illustrate “Klangtypen.”

The first sound-type is Kadenzkläng (cadence sound). Kadenzkläng is a musical process, which has a clear property of sound from emergence to decay (example 9). Lachenmann called this musical process Eigenzeit (own time). The sound may be either extended or shortened, much like cadence in tonal music with its characteristic ending.\(^{16}\)

![Diagram of Kadenzkläng (cadence sound)](Image)

Ex. 9 Diagram of Kadenzkläng (cadence sound).\(^{17}\)

Additionally, Kadenzkläng also can be divided into three subordinate types: Impulsklänge (impulse sound), Einschwingklänge (transient sound), and Ausschwingklänge (decaying sound).\(^{18}\) Example 10 shows the sound contour of Impulsklänge (impulse sound). As can be seen from the diagram, it is similar to the sound output of the piano, which begins with a quick attack time, before the sound gradually decays. Lachenmann gives an example of Stockhausen’s Gruppen für drei Orchester (example 11). This

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\(^{17}\) Lachenmann, “Klangtypen der Neuen Musik”, adapted from Lachenmann’s Beispiel 6, (example 6), p. 3.

\(^{18}\) Ibid., 3-6.
example stresses the sound output of trumpet, which begins with a fast and strong sound attack before the sound gradually decays. Also, the soft horn sound and celesta’s reverberation join the decay process to create a distinct resonance.

Ex. 10 Diagram of \textit{Impulsklang} (impulse sound).\footnote{Lachenmann, “Klangtypen der Neuen Musik”, adapted from Lachenmann’s Schematische Darstellung (schematic presentation), p. 4.}

Ex. 11 Stockhausen, \textit{Gruppen für drei Orchester}, page 13\footnote{Karlheinz Stockhausen, \textit{Gruppen für drei Orchester}, two measures before rehearsal 9 (p. 13), adapted from the handwritten short score cited by Lachenmann in “Klangtypen der Neuen Musik” as Beispiel 8 (ex. 8), p.4.}

The second subordinate type is \textit{Einschwingklang} (transient sound). Example 12 shows that the sound contour of \textit{Einschwingklang} is the opposite to \textit{Impulsklang}. It
begins with a gradual *crescendo* motion then stops on an accent point.\footnote{Jeffrey Lipscomb, *Symphony #2 and A Critical Appraisal of Helmut Lachenmann’s Writings and Music*, 135.} In “Klangtypen,” Lachenmann gives the example of Nono’s *La terra e la compagna* (example 13) to present the musical process of *Einschwingklang*. Several instruments are used in this process: the cymbal’s *crescendo* is extended by tam-tam’s slow *crescendo* and ends on a *forte* moment.

Ex. 12 Diagram of *Einschwingklang* (transient sound).

Ex. 13 Nono, *La terra e la compagna*, mm. 159-160\footnote{Luigi Nono, *La terra e la compagna*, mm. 159-160, adapted from the handwritten short score cited by Lachenmann in “Klangtypen der Neuen Musik” as Beispiel 9 (ex. 9), p. 5.}
The last subordinate type is *Ausschwingklang* (decaying sound). Example 14 shows that this musical process combines the sound contours of *Impulsklang* and *Einschwingklang*. Lachenmann uses Ligeti’s orchestra piece, *Apparitions* (example 15), to explain this sound. As can be seen, the musical process starts with a unison in which a very loud drum, violins, and violas accompany the soft cellos and basses. The loud drum, violins and violas cover the sounds of other instruments at the beginning of the musical process. The sounds of the cello and bass gradually emerge until the sounds of a big drum, violin and viola slowly decay. By using the transition of timbre, register and dynamics, it creates a complex sound and the effect of crossfading, which is a common technique in electronic music. Composers often use this effect to make a smooth transition between two sounds.  

Ex. 14 Diagram of *Ausschwingklang* (decaying sound).  

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25 Lachenmann, “Klangtypen der Neuen Musik”, adapted from Lachenmann’s Schematische Darstellung (schematic presentation), p. 6.
Ex. 15 Ligeti, *Apparitions*, m. 49\(^26\)

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\(^26\) György Ligeti, *Apparitions*, m. 49, adapted from the handwritten short score cited by Lachenmann in “Klangtypen der Neuen Musik” as Beispiel 10 (ex. 10), p. 6.
The rest of the sound-types not only emphasize the musical process, but also feature the *Klang als Zustand* (sound state), including *Farbklänge* (color sound), *Fluktuationsklänge* (fluctuation sound), and *Texturklänge* (textured sound).\(^\text{27}\)

Lachenmann labels the second sound-type as *Farbklänge* (color sound). He argues that this is the simplest form of sound, as the sound presents its tone color in a static and stable state. Lachenmann uses a rectangle to present this sound state (example 16).

Unlike *Kadenzklänge*, *Farbklänge* has no clear or characteristic ending. It shows the whole property of sound at the beginning of the sound process. Therefore, *Farbklänge* has a very short *Eigenzeit*. It immediately runs out the *Eigenzeit* when the ear perceives the property of sound such as a tone color at the very beginning moment, although the sound process can be lengthened or shortened.\(^\text{28}\) For example, Ligeti’s orchestra piece, *Atmosphères*, (example 17) encompasses long and stationary sound clusters in the opening of the music.

Ex. 16 Diagram of *Farbklänge* (color sound).\(^\text{29}\)

\(^{27}\) Lachenmann, “Klangtypen der Neuen Musik” 8-17.  
\(^{28}\) Ibid., 8-9.  
\(^{29}\) Ibid., adapted from Lachenmann's Beispiel 13 (ex. 13), p. 8.
Ex. 17 Ligeti, *Atmosphères*, mm. 1-6\(^{30}\)

\(^{30}\) György Ligeti, *Atmosphères*, Anfang (mm. 1-6), adapted from the handwritten short score cited by Lachenmann in “Klangtypen der Neuen Musik” as Beispiel 15 (ex. 15), p. 9.
Lachenmann identified the third sound-type as *Fluktuationklang* (fluctuation sound). The difference between *Fluktuationklang* and *Farbklang* is that *Fluktuationklang* contains a periodic change in the musical process (example 18).\(^{31}\) Also, it has a longer *Eigenzeit* than *Farbklang*, as each characteristic and repeated period is its *Eigenzeit*.\(^{32}\) While the inner gestures regularly repeat in a musical passage, the surface contour still maintains a steady motion, much like *Farbklang*. This sound state is similar to the style of minimalism in the 20\(^{th}\) century. Also, this sound state has been applied to classical music, such as a simple repetition of *tremolo* motion (example 19) or a repeated arpeggio gesture (example 20).\(^{33}\) Moreover, Ligeti’s *Atmosphères* articulates the *Fluktuationklang* through a complicated orchestral texture (example 21).

Ex. 18 Diagram of *Fluktuationklang* (fluctuation sound).\(^{34}\)

\(^{31}\) Lachenmann, “Klangtypen der Neuen Musik” 10.  
\(^{32}\) Ibid., 11.  
\(^{33}\) Ibid.,10-14.  
\(^{34}\) Ibid., adapted from Lachenmann’s Beispiel 21 (ex. 21), p.11.
Ex. 19 Anton Bruckner, *Symphony No.4*, Mvt.1, mm. 1-11\(^\text{35}\)

Ex. 20 Frédéric Chopin, *Etude* op. 25, no.1, mm. 45-46\(^\text{36}\)

\(^{35}\) Anton Bruckner, *Symphony Nr.4*, Anfang (mm. 1-11), adapted from the handwritten short score cited by Lachenmann, “Klangtypen der Neuen Musik” as Beispiel 18 (ex. 18), p. 10.

\(^{36}\) Frédéric Chopin, *Etude* op. 25, no.1, mm. 45-46, adapted from the handwritten short score cited by Lachenmann, “Klangtypen der Neuen Musik” as Beispiel 19 (ex. 19), p. 11.
The fourth sound-type is *Texturklang* (textured sound). Unlike *Fluktuationklang*, *Texturklang* has no repeated cycle, and it also has no clear sound idea to perceive instantly, as the characteristic texture constantly changes within the inner level of a musical passage (example 22). Additionally, *Texturklang* needs to take a long time in order to show the complete shape of sound; therefore its *Eigenzeit* can last forever if the inner texture keeps changing. Lachenmann uses an excerpt (example 23) from Ligeti’s *Apparitions* to demonstrate the *Texturklang*. As can be seen, the inner texture shows a non-repeated and chaotic pattern. Another example is Stockhausen’s *Gruppen für drei Orchester* (example 24). From the musical passage, the texture gradually becomes more

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38 Ibid., 14.
complex. These patterns have to unfold over a long period so the sound contour can slowly emerge.

Ex. 22 Diagram of Texturklang (textured sound).

Ex. 23 Ligeti, Apparitions, page 19.\textsuperscript{39}

\textsuperscript{39} György Ligeti, Apparitions, page 19, reproduced from Lachenmann, “Klangtypen der Neuen Musik” as Beispiel 27 (ex. 27), p. 15.
Ex. 24 Stockhausen, *Gruppen für drei Orchester*, rehearsal 118\(^{40}\)  

\(^{40}\) Karlheinz Stockhausen, *Gruppen für drei Orchester*, rehearsal 118, adapted from the handwritten short score cited by Lachenmann in “Klangtypen der Neuen Musik” as Beispiel 28 (ex. 28), p. 16-17.
Ex. 24. Cont.
Ex. 24. Cont.

Move to page 24.
The last sound-type is *Strukturklang* (structure sound). *Strukturklang* organizes the previous sound-types to become a basic structure in a musical piece. Lachenmann argued that the previous sound-types such as *Farbklang*, *Fluktuationsklang*, or *Texturklang* are inadequate to present the organization of sound in his compositions. Therefore, he attempted to create a new musical process that he called *Eigenzeit* for the entire duration of a piece. Example 25 shows the diagram that Lachenmann used in “*Klangtypen der Neuen Musik*” to display the structure of sound. As is evident, the diagram is composed of three wedges, four lines, two circles, and three dots. Each element represents a characteristic sound, such as the previously mentioned sound-types; they may also be presented by varied repetition. The horizontal line presents the duration of each sound and the vertical line is the range of register or volume.

![Diagram of Strukturklang](image)

Duration (*Eigenzeit*)
Ex. 25 Diagram of *Strukturklang* (structure sound).

It is important for composers to plan a detailed sound sketch in order to arrange the varied sounds in a musical process. Moreover, in this multi-level process, the transformation of each characteristic sound must be recognizable by the listeners.

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41 Ex. 25 is adapted from Lachenmann, “Klangtypen der Neuen Musik” 17.
42 Lachenmann, “Klangtypen der Neuen Musik” 17-18.
43 Ibid., 18.
Lachenmann called this musical structure: *Polyphonie von Anordnungen* (polyphony of ordered juxtapositions). Lachenmann’s string quartet No.1 *Gran Torso* (1972) was his first piece to fully articulate the concept of the structure sound. At the beginning of *Gran Torso* (example 26), there are four gestures noted A, B, C, and D. The gesture A sustains sound through drawing the bow with varied pressures on different areas of the instruments. Gesture B creates a striking sound through bouncing the bow on the strings. Gesture C is vibrato sound. Gesture D creates a scratch sound. These four gestures become the basic motives to be developed throughout the whole piece. Lachenmann’s concept of *Strukturklang* inspires young composers to further experiment with timbral texture and pure-sound aspects in musical composition.

Ex. 26 Lachenmann, *Gran Torso*, mm. 1-7

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44 Lachenmann, “Klangtypen der Neuen Musik,” 18.
The Use of Traditional Elements

Lachenmann began a new musical period in the mid-1970s. During the first and second periods, he focused on the notion of sonority while refuting the notion of tonality. In the third periods, he tried to create a balance between traditional and extended performance techniques. He also worked with existing music, making it unrecognizable by subjecting it to electronic and rhythmic permutations.

One of the earliest pieces in this period is *Accanto* (1976) for clarinet, orchestra, and tape. In this piece, he quoted Mozart’s clarinet concerto through recording tape and plays back during the live performance. Instead of directly quoting the Mozart concerto, he made the music unpredictable by fading the music in and out. He treated the tape part like one orchestral instrument. Due to the vague contour, listeners cannot immediately perceive the Mozart quotation, an unfamiliar aural situation derived from the familiar elements. Another example is his *Tanzsuite mit Deutschlandlied* (1980) for string quartet and orchestra. He quoted the German national anthem, however, the quotation is unrecognizable at the surface level because he only used a rhythmic pattern. He elongated this rhythmic pattern to dim the original shape. He also used a similar device in his solo piano piece, *Ein Kinderspiel* (1980). He used a rhythmic gesture from baroque dance forms, such as gigue, to generate the rhythmic pattern for the entire piece. The way of Lachenmann’s quotation echoes to the concept of Shklovsky’s defamiliarization, which creates new styles from old elements through uncommon manners.

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47 Lipscomb, Symphony #2 and A Critical Appraisal of Helmut Lachenmann’s Writings and Music 167-169.
During this period, Lachenmann’s pieces were relatively more conservative in comparison to the second periods. He tended to use more conventional pitch permutations, including traditional performance technique and notation. Regarding his piano piece, *Ein Kinderspiel* (1980), Lachenmann stated:

“The result of all this is something easy to play and easy to understand: a child’s game but aesthetics, without compromises.”

He always provided a clear idea about the creation of sounds. In the opening of *Ein Kinderspiel*, the pianist plays the two highest piano keys repeatedly and loudly with the sustain pedal. It creates a special resonance from the lower and dissonant frequencies.

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49 Alastair Williams, “The refusal of habit: Helmut Lachenmann” 100.
Chapter 3: The Concept of My Music

In my music, I explore the sound of acoustic instruments. Lachenmann’s *musique concrète instrumentale* undoubtedly has broadened my horizons regarding sound-world composition. I am inspired by his music, especially by its expressive power of sound and the aesthetics of both the noisy and silent sounds. I try to communicate my emotional experiences to listeners through the use of pure sound. In addition, I usually draw a sound sketch during my compositional process. This sketch is similar to the diagram of Lachenmann’s *Strukturklang*. The sketch consists of several musical materials, such as timbre, gesture, or orchestration. According to the sketch, each sound is refined from unlimited musical materials and generates characteristic sounds with a clear direction. Finally, all of the sounds play their unique roles in a limited musical duration. The musicologist, Jerrold Northrop Moore, stated:\textsuperscript{50}

\begin{quote}
“The artist, like the rest of us, is torn by various desires competing within himself. But unlike the rest of us, he makes each of those desires into an element for use in his art. Then he seeks to synthesize his elements all together to form a style. The sign of a successful synthesis is a unified and unique style plain for all to recognize. So it is that a successful style can seem to its audience full of indefinably familiar things – and at the same time invested with godlike power of ‘understanding’ that is far indeed from the daily round. The process by which a man has forged such a unity is the most profound and most exalted of human stories.”\textsuperscript{51}
\end{quote}


As a composer, I endeavor to create different voices in each of my pieces, and continuously explore unknown possibilities.

_Gone from My Sight (2014) for solo piano_

The inspiration of this solo piano piece comes from Henry Van Dyke’s poem, _Gone from My Sight:_

“I am standing upon the seashore.  
A ship at my side spreads her white sails to the morning breeze  
and starts for the blue ocean. 
She is an object of beauty and strength. 
I stand and watch her until at length she hangs 
like a speck of white cloud 
just where the sea and sky come to mingle with each other. 
[…..] 
Her diminished size is in me, not in her.  
And just at the moment 
when someone at my side says: 
“There, she is gone!” 
there are other eyes watching her coming, 
and other voices ready to take up the glad shout: 
“Here she comes!”

And that is dying.”

The whole piece repeatedly presents a process whereby the sound emerges then gradually decays. It resembles the rise and fall of ocean tides; it also depicts the scene of a ship gradually drifting further away and disappearing from the viewer’s sight. In this piece, I do not use extended performance techniques, such as prepared piano or playing inside the piano. The piece focuses on the interval structure and its resonance. This piece comprises three different sections composed as three grand gestures: vertical chords,

[^52]: Henry Van Dyke, “Gone from My Sight.”
http://en.wikisource.org/wiki/Author:Henry_van_Dyke
descending figures, and *accelerando* and *ritardando* passages with *tremolo* in the high register. These three gestures generate all the motives throughout the entire piece. Table 1 shows the entire structure of this piece.

<table>
<thead>
<tr>
<th>Section I</th>
<th>Section II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section I mainly develops the gesture of ‘vertical chords’ by different uses of the pedal.</td>
<td>Section II generates the ‘descending figures’ and retains the previous gesture of ‘vertical chords.’ The descending motion appears again and again as if the ocean was constantly moving from high tide to low tide, and then back to high tide.</td>
</tr>
<tr>
<td>1. Playing the chord loudly with the <em>sostenuto</em> pedal to suspend the resonance.</td>
<td>1. The passage presents a fluctuating motion through inserting the interval leaps between these descending motions.</td>
</tr>
</tbody>
</table>

![Diagram of vertical chords](image)

Table 1. The entire structure of *Gone from My Sight.*
The three gestures occur through varied repetition. In the first section, the ‘vertical chord’ gesture begins with repeatedly striking a chord then decaying the sound. This gesture consistently expands its time span in each repetition.

2. A directly descending motion.

Section III sustains sound through *accelerando* and *ritardando* with *tremolo* in the high register. The high register passage usually answers a decaying sound from a low chord.

Move to page 33.
The three gestures occur through varied repetition. In the first section, the ‘vertical chord’ gesture begins with repeatedly striking a chord then decaying the sound. This gesture consistently expands its time span in each repetition. Not only does it become longer, but it also includes more and more alien materials, a transient sign of gesture from the second section that creates a tension in this section. The process is similar to Lachenmann’s Texturklang (texture sound) that a gesture slowly transforms the inner structure from a simple to a complicated structure. The second section is trigged by the ‘vertical chord’ gesture connecting a new gesture, the descending figures. This fast and descending passage contrasts with the first, relatively static section. It is developed over and over again through switching the register and accelerando motion. The descending passage gradually increases in length and includes more chromatic notes in each descending motion. Finally, the section ends on a very dissonant and low sounding sonority. The last section applies the concept of Lachenmann’s Fluktuationsklang (fluctuation sound) to sustain the sound. By repeatedly playing the passage of accelerando and ritardando with tremolo in the piano high register, listeners will perceive the similar sound experience in this section. Moreover, the previous two gestures are also combined into the section to be generated until the end of the piece. As the whole piece constructs a near-repetition contour, listeners will perceive an aural experience between a familiar and unfamiliar musical process. As a musical theorist, John Rahn explains in his article titled “Repetition”:

“The process of continual repetition, continual change-of-context constituting meaning, creatively folding a life back over its traces as it unfolds, is a source of
great satisfaction, aesthetically desperate and desperately aesthetic, for without this process, without hope of telos, there would be no life.”

In terms of pitch, the interval structure is based on dissonant augmented fourth and minor or major seventh that accompany any consonant interval. In the first section, the interval structure consists of augmented fourth and major seventh. Example 27 shows the interval structure of the first section. As can be seen, the interval structure is expanded from a simple augmented fourth chord to a complex cluster. In the process of expansion, the sonority constantly retains the augmented fourth sound.

Ex. 27 Interval structure of the first section, Gone from My Sight.

In the second section, the interval structure continuously focuses on augmented fourth. The descending passage starts with the interval leaps which combine minor third, augment fourth, minor seventh, major second and parallel fourth. By the increase of

tension, the descending passage shows more and more chromatic notes. Therefore, as the
interval structure is concerned, there are more and more major seventh, major second and
minor second intervals in the descending passage. Example 28 shows the interval
structure of the second section.

Ex. 28 Interval structure of the second section, Gone from My Sight.

In the third section, the augmented fourth is used in vertical harmony or
horizontal figures. In the beginning of the section, the augmented fourth is hidden in the
passage. Until the middle of the section, the augmented fourth starts to show in the
tremolo motion. The final passages clearly present the augmented fourth in the surface
melodic contour. This idea is similar to Lachenmann’s Texturklang (texture sound) that
an interval structure presents its shape from vague to clear. Examples 29, 30, 31 show the interval structure of the third section.

Ex. 29 Interval structure, the beginning of the third section, *Gone from My Sight.*
Ex. 30 Interval structure, the middle of the third section, *Gone from My Sight.*
Ex. 31 Interval structure, the end of the third section, *Gone from My Sight.*
**Tamer (2014) for b-flat clarinet, violin and piano**

In this piece, I attempt to illustrate what a person experiences during a nightmare. The person constantly struggles and fights all emotional attacks, like a tamer attempting to subdue a wild animal. Finally, he wakes up exhausted from the disturbing nightmare. The whole piece presents a melancholic and repressed atmosphere. There are no significant contrasts in this piece. I tried to create an atmosphere resembling a person trapped in an airtight room. In this piece I use many extended performance techniques to express the person’s emotional distress.

The whole piece consists of six sections. The first section presents a sound envelope that opens with a strong attack played by the three instruments; the sound then gradually decays. It is similar to Lachenmann’s *Impulsklang* (impulse sound). The second section is a process of crescendo. The sound idea resembles Lachenmann’s *Einschwingklang* (transient sound), a reverse sound envelope of the first section. The third section uses extended performance techniques, such as clarinet air sound and violin drawing the bow on the bridge to create non-pitched noises. The fourth section has a piano melodic pattern in high register. This pattern relieves the intense atmosphere during the whole piece as if a beautiful illusion shortly appears in the middle of the nightmare. The fifth section repeatedly presents the process of decrescendo then crescendo. It is similar to the idea of Lachenmann’s *Ausschwingklang* (decaying sound). The final section is totally non-pitched. The three instruments use extended performance techniques that include clarinet air sound, violin scratch sound, and a glissando sound of piano inside strings. It creates a mechanical effect of repetition. Table 2 shows the entire structure of this piece.
Section I consists of a strong sound attack and the decay process of sound. The process of sound decay is lengthened through extended performance techniques.

1. The section opens with *Ausschwingklang* (decaying sound), one subordinate type of *Kadenzklang* (cadence sound) derived from Lachenmann’s sound-types. The process of sound decay is lengthened through clarinet air sound with slap keys.

![Section I mm 1-5](image)

2. A strong sound attack is triggered by a clarinet flutter tone, a violin scratch sound, and the muted piano sound. This sound combination creates an intense and trembling atmosphere. The process of sound decay is lengthened through clarinet air sound, fixed piano figures, and drawing the bow with varied pressures on different areas of violin.

![Section I mm 13-15](image)
In this process of *crescendo*, the clarinet leads the process through the effect of multiphonics then stops on the violin scratch sound.

Section III is an air-noise section. The sound is created by clarinet air sound and the violin drawing the bow on the bridge with *tremolo*.

The piano melodic pattern leads the Section IV. This melodic pattern accompanies the violin harmonics with free *glissando* to present a tranquil atmosphere in the night.

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**Cont.**
Table 2. Cont.

<table>
<thead>
<tr>
<th>Section IV</th>
<th>Section V repeatedly presents the process of <em>decrescendo</em> then <em>crescendo</em>. Also, the violin plays the fast and <em>crescendo</em> pattern near the bridge to create a sharp and noisy sound.</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm 63-64</td>
<td><em>Silence and transparent</em></td>
</tr>
<tr>
<td>mm 100-104</td>
<td><em>Silence and transparent</em></td>
</tr>
</tbody>
</table>

| Section VI | The non-pitched sound of Section VI is composed of a clarinet air sound, violin scratch sound, and a glissando sound of piano inside strings. It creates an image of a person that has woken up terrified after a nightmare. |

Cont.
This piece explores a variety of sonorities through extended performance techniques. During the violin part, the bow is continuously drawn with varied pressures and areas, which creates a significant amount of energy. This concept is inspired by Lachenmann’s *musique concrète instrumentale*. Lachenmann discussed the energetic process of sound in an interview:

“I am working with the energetic aspect of sounds. The Pizzicato note C is not only a consonant event in C major or a dissonant event in C-flat major. It might be a string with a certain tension being lifted and struck against the fingerboard. I hear this as an energetic process.”

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Footfalls in Memories (2015) for piano quintet

My initial inspiration of Footfalls in Memories is based on a witty poem by Rabindranath Tagore (1861-1941), a Bengali poet, philosopher, artist, playwright, composer, and novelist. This poem is from one of his poetic collections titled “Stray Birds,” which uses short poems or aphorisms to embody his love of nature and simplicity.

“My initial inspiration of Footfalls in Memories is based on a witty poem by Rabindranath Tagore (1861-1941), a Bengali poet, philosopher, artist, playwright, composer, and novelist. This poem is from one of his poetic collections titled “Stray Birds,” which uses short poems or aphorisms to embody his love of nature and simplicity. Rabindranath Tagore, “Stray Birds.” accessed December 25, 2002, http://www.gutenberg.org/files/6524/6524-h/6524-h.htm

“For me, the footfalls of memory are silent; however, its footprints have deeply affected my life. This piece inspires self-reflection; I recall the joyful and painful memories of the past through listening to my heart. These memories all reflect the experiences which have helped me to grow. The whole piece exploits and highlights the different symmetric structures to communicate the flow of time through the past and present.

Footfalls in Memories consists of four sections. The first section revolves around a center tone ‘A’ with rhythmic patterns in the piano. Each rhythmic pattern has a given duration that irregularly becomes longer or shorter. In addition, the pitch ‘A’ repeats different rhythmic patterns that range from simple to complicated, or soft to loud. These gestures create aperiodic pulses in the first section, which represent a person walking with light or heavy footsteps. Furthermore, in these patterns, there is a rhythmic symmetry between measure 13 to measure 26. It symbolizes the time goes back to the past. The string part sustains the pitch ‘A’ through drawing the bow with varied pressures

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on different areas of instruments to create diverse orchestral colors. Additionally, the jeté bowing echoes the piano’s rhythmic pattern. In the first section, the concept of musical structure is similar to Lachenmann’s Zeitnetz (time net), a progression of durations and rhythms are generated by serial, algorithmic or aleatoric means. Additionally, the time net not only includes rhythmic patterns, but also combines certain pitches. As a result, the rhythmic patterns with given pitches become the basis of a piece, referred to as structural melody.56

The sound structure of the second section is an arch form in the strings. The section opens with string air-noise sound played by drawing the bow on the bridge. In the middle of the section, the strings play the symmetric intervallic structures with harmonics. The symmetric pattern symbolizes a mirror that reflects both the past and the present. The end of the section brings back the string air-noise sound. In this section, I try to present a moment whereby time appears to be frozen. The footfalls of memory gradually emerge through a series of piano grace notes.

The musical materials of the third section come from the beginning of the piece, including rhythmic patterns of the muted piano and a retrograde passage of the first section in cello and viola. This section also focuses on the center tone ‘A.’ I try to use the reversed structure to express an abstract imagination in which the footfalls of memories interweave between the past and present.

The fourth section is a short coda. The sound structure of this section consists of a glissando sound of the muted piano and strings pizzicato. The piece ends on a series of

56 Lipscomb, Symphony #2 and A Critical Appraisal of Helmut Lachenmann’s Writings and Music. 165.
Bartók pizzicato, like the hurried footfalls that wake me up from past memories. Table 3 shows the entire structure of Footfalls in Memories.

The rhythmic patterns of the piano dominate the whole of Section I. Each pattern is given different durations to create the unstable paces. As the patterns become increasingly complicated, the tension increases. These devices create the aperiodic pulses in the music. Additionally, there is a rhythmic retrograde between measure 20 to measure 26 played by the muted piano.

1. The piano rhythmic pattern.

Table 3. The entire structure of Footfalls in Memories.
Table 3. Cont.

Section I

2. The rhythmic retrograde (mm19-20).

Section II

1. The symmetric intervallic structures.
Table 3. Cont.

2. The reduction of the interval structure (the note of parenthesis was played by the cello).

<table>
<thead>
<tr>
<th>Vln. I &amp; Vln. II</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Example 1]</td>
</tr>
<tr>
<td>![Example 2]</td>
</tr>
<tr>
<td>![Example 3]</td>
</tr>
</tbody>
</table>

Section II

The musical materials of Section III come from Section I.

1. The register of the muted piano rhythmic pattern is three octaves lower than in Section I.

<table>
<thead>
<tr>
<th>Piano with notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Example 4]</td>
</tr>
</tbody>
</table>

Section III

2. The Cello plays the retrograde passage (mm63-87) that is from the cello part (mm1-27) of the whole Section I. The retrograde motion includes pitch, rhythm, dynamics, and various bowing techniques.

<table>
<thead>
<tr>
<th>Viola with notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Example 5]</td>
</tr>
<tr>
<td>![Example 6]</td>
</tr>
</tbody>
</table>

Cont.
3. The viola plays the rhythmic and pitch retrograde excerpt (mm81-99) from the viola part (mm8-27) of Section I.

Section IV consists of three sound gestures.

1. The *glissando* sound of the muted piano.

2. Strings *pizzicato*.

Cont.
Table 3. Cont.

3. A series of Bartók pizzicato.

Measure 102

Move to page 48.
Chapter 4: Conclusion

By consistently exploring new musical materials from performance techniques and traditional musical elements, Lachenmann created an inner structure of music using a variety of sounds. He challenged audiences’ listening behaviors through his concept of *musique concrète instrumentale*. Listening to Lachenmann’s music is as a process of continuously confronting and questioning one’s own perceptions. Noisy, unpleasant musical sounds can be created by drawing a violin bow with heavy pressure, roughly or harshly plucking the strings of instruments in an unmelodic manner, blowing air into a flute’s tube and so on. These sounds were previously considered taboo in classical music, however Lachenmann liberated these sounds through his examination and discussion of their individual beauty. He attempted to defy and even break down the traditional definition of beauty through his unique perspective on musical aesthetics.

I benefited from studying Lachenmann’s works, such as his trio *temA* and solo cello piece, *Pression*. He provides a considerable amount of information and insight regarding extended performance techniques. His *string quartet no.1, Gran Torso*, offers the best example regarding the organization of structure in a musical process. His *Accanto* demonstrates that the same musical material can always be presented in a different manner. My works has been influenced by Lachenmann and this is most evident in the following pieces: *Gone from My Sight, Tamer*, and *Footfall in Memories*. 
Last but not least, except for a variety of compositional techniques, intuition is the most important factor regarding the compositional process. Intuition makes my music unique because feelings and emotions are personal. As a composer, it is important that I can express myself fully through my music. As Lachenmann stated in an interview:

Everything which the composer does, even the most intellectual effort, is ultimately intuitive. […..] What I do believe is that, to the extent to which my intellectual speculation can be master of the rationally graspable domain of composition – i.e. how particular categories of sound and the hierarchies which are connected to them, specify themselves, and every work needs its own irreplaceable, non-transferable categories – to that extent, intuition finally comes alive and then becomes a source of intellectual authority. 57

References


“‘pressio’ by Helmut Lachenmann (Peter Sigl),” YouTube video, 4:34. Posted by Petsill. February 23, 2011. https://www.youtube.com/watch?v=CB-7gDeegEg


